

- (iii) Give diagrammatic presentation of eukaryotic core promoter.
- (iv) Mention the functions of hSPT5, TFIIS in transcription process.
- (v) Write significance of introns in eukaryotic genome.
- (vi) Write the importance of Signal sequence present in protein polypeptide
- (vii) Enlist functions of molecular chaperones.
- (viii) What is breakage - fusion – bridge cycle in Maize genome?
- (ix) Mention the characteristics of cancer cells.

Q.3 A Discuss the role of different proteins involved in eukaryotic DNA replication. [06]
B Describe the steps in the formation and activation of pre-replicative complex (pre-RC) during eukaryotic DNA replication. Explain the effect of Cdk activity on pre-RC formation and activation. [06]

OR

B (i) Discuss types of eukaryotic DNA polymerases. [06]
(ii) Explain promoter escape.

Q.4 A Discuss initiation of transcription process by RNA polymerase II & III. [06]
B Discuss the role of Histone modification in transcription regulation. [06]

OR

B Describe eukaryotic transcriptional elongation in detail. [06]

Q.5 A Explain various steps in termination of translation in eukaryotes. [06]
B Discuss the mechanism of nonsense mediated mRNA decay (NMD) and nonstop mediated mRNA decay (NSD) in regulation of eukaryotic translation. [06]

OR

B Write a note on protein transport in eukaryotic cell. [06]

Q.6 A Explain the role of P element in hybrid dysgenesis in *Drosophila*. [06]
B Write short note on [06]

(i) Retinoblastoma gene

OR

(ii) p53 gene

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